Scintillator Timing Study Waveform Decomposition Demo

Fabian Hummer

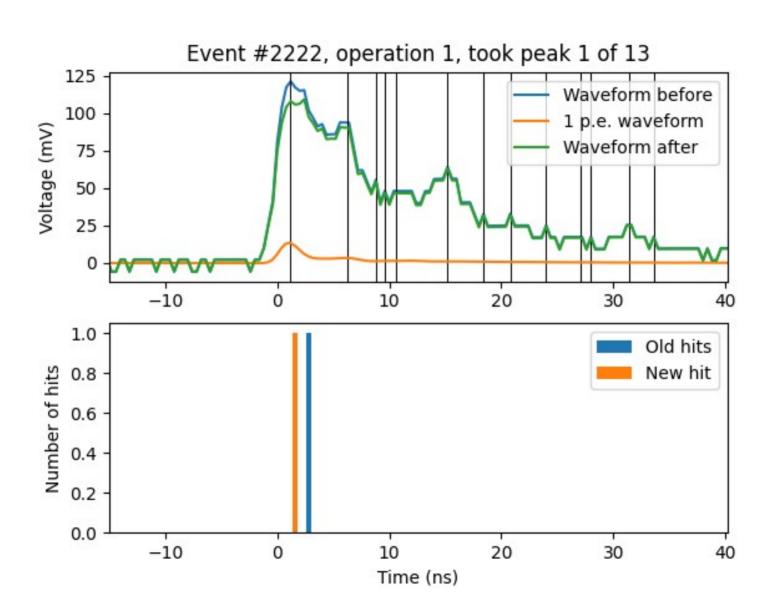
Supplementary Material to my Talk at the AHCAL Meeting

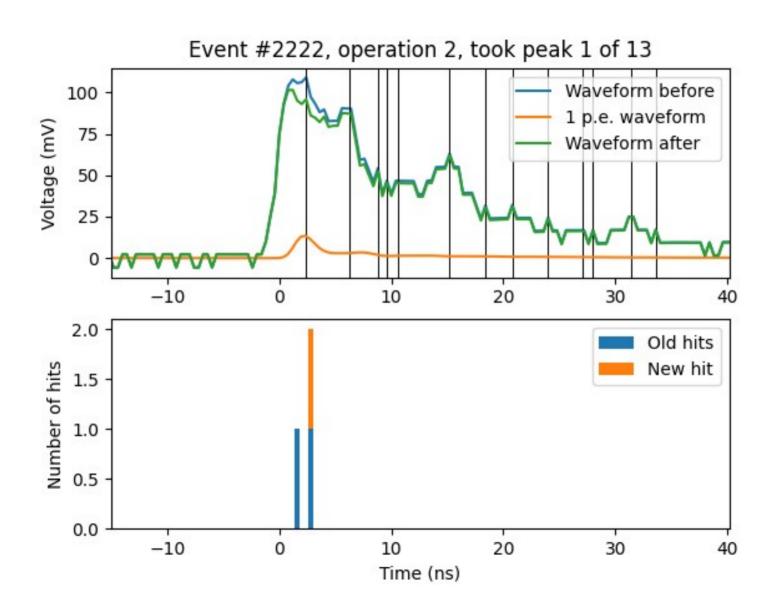
Dec 8, 2021





Event #2222, operation 0, took peak 1 of 13 125 Waveform before 1 p.e. waveform 100 Voltage (mV) Waveform after 75 50 25 0 --1020 30 10 40 1.0 Old hits 0.8 New hit Number of hits 0.6 0.4 0.2 0.0 -10 20 30 10 0 40 Time (ns)

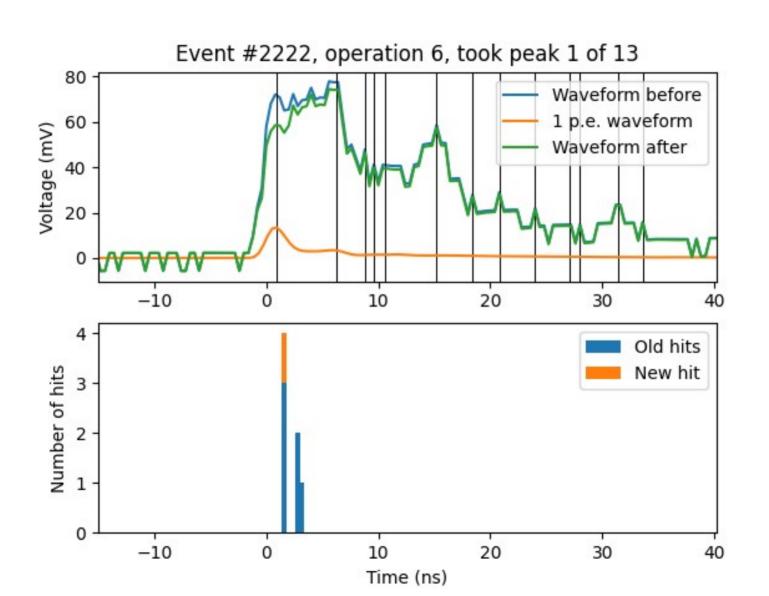




Event #2222, operation 3, took peak 1 of 13 100 Waveform before 80 1 p.e. waveform Voltage (mV) Waveform after 60 40 20 -1020 30 10 40 2.0 Old hits New hit Number of hits 1.5 1.0 0.5 0.0 -10 20 30 10 40 Time (ns)

Event #2222, operation 4, took peak 1 of 13 Waveform before 80 1 p.e. waveform Voltage (mV) 60 Waveform after 40 20 -1010 20 30 40 2.0 Old hits New hit Number of hits 1.5 1.0 0.5 0.0 -10 30 20 10 40 Time (ns)

Event #2222, operation 5, took peak 1 of 13 80 Waveform before 1 p.e. waveform Voltage (mV) 60 Waveform after 40 20 -1020 30 10 40 3 Old hits Number of hits New hit 0 30 -10 20 10 40 Time (ns)

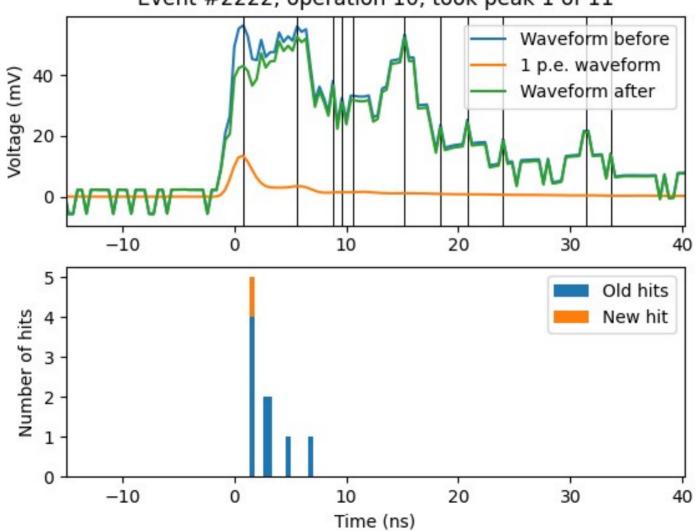


Event #2222, operation 7, took peak 1 of 12 Waveform before 60 1 p.e. waveform Voltage (mV) Waveform after 40 20 -1010 20 30 40 Old hits Number of hits New hit 3 0 -10 30 20 10 40 Time (ns)

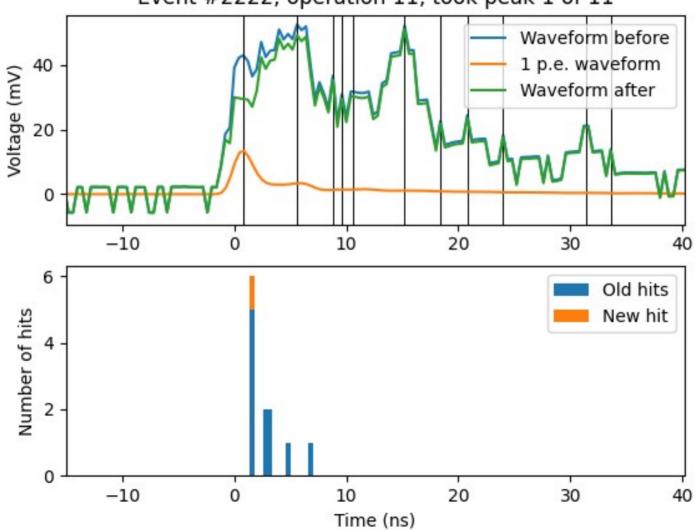
Event #2222, operation 8, took peak 1 of 12 Waveform before 60 1 p.e. waveform Voltage (mV) Waveform after 40 20 -1010 20 30 40 Old hits Number of hits New hit 3 0 30 -10 20 10 40 Time (ns)

Event #2222, operation 9, took peak 1 of 11 Waveform before 60 1 p.e. waveform Voltage (mV) Waveform after 40 20 -1010 20 30 40 Old hits Number of hits New hit 3 0 30 -10 20 10 40 Time (ns)

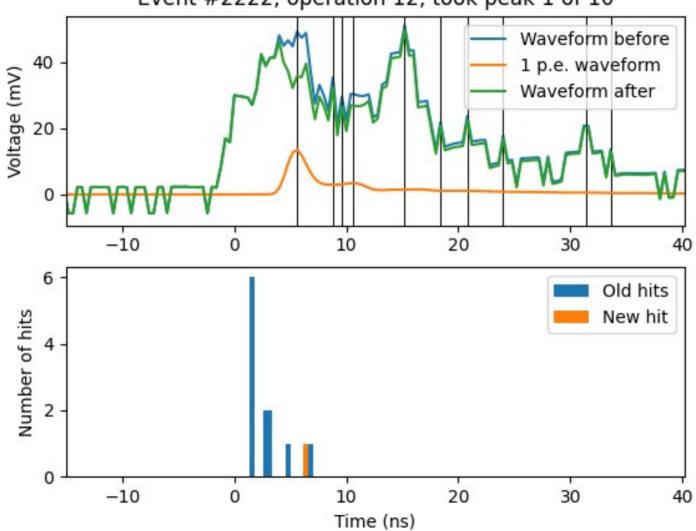
Event #2222, operation 10, took peak 1 of 11



Event #2222, operation 11, took peak 1 of 11



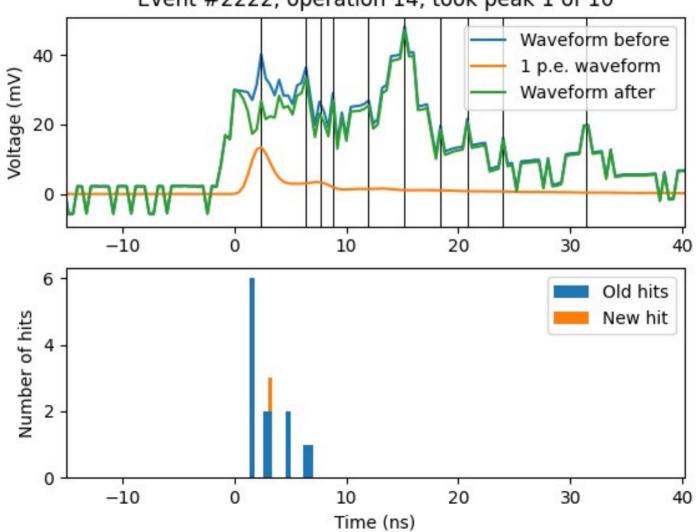
Event #2222, operation 12, took peak 1 of 10



Event #2222, operation 13, took peak 1 of 11 Waveform before 40 1 p.e. waveform Voltage (mV) Waveform after 20 -1030 10 20 40 6 Old hits Number of hits New hit 0 30 -10 20 10 40

Time (ns)

Event #2222, operation 14, took peak 1 of 10



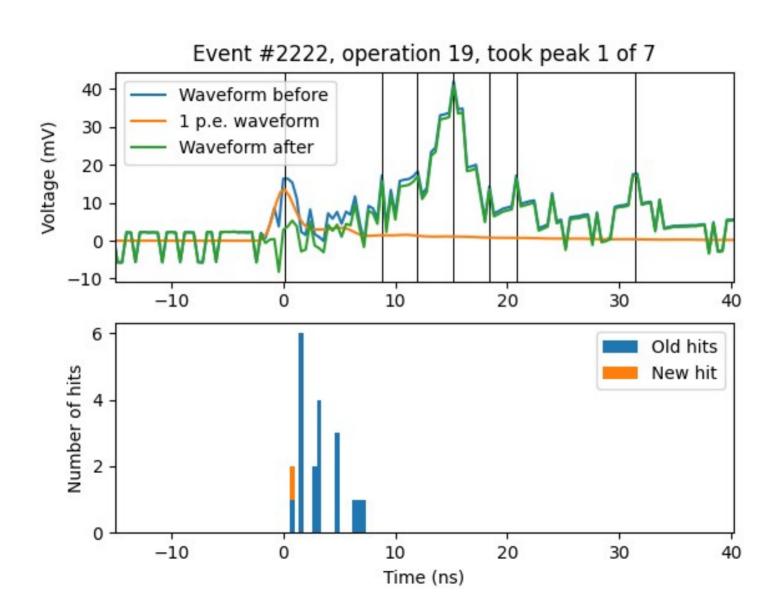
Event #2222, operation 15, took peak 1 of 10 Waveform before 40 1 p.e. waveform Voltage (mV) 30 Waveform after 20 10 -1030 10 20 40 6 Old hits Number of hits New hit 0 30 -10 20 10 40

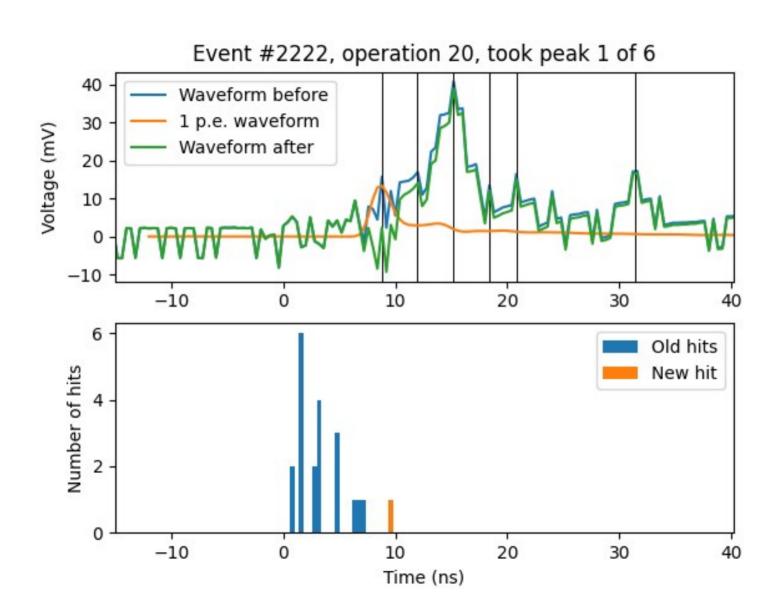
Time (ns)

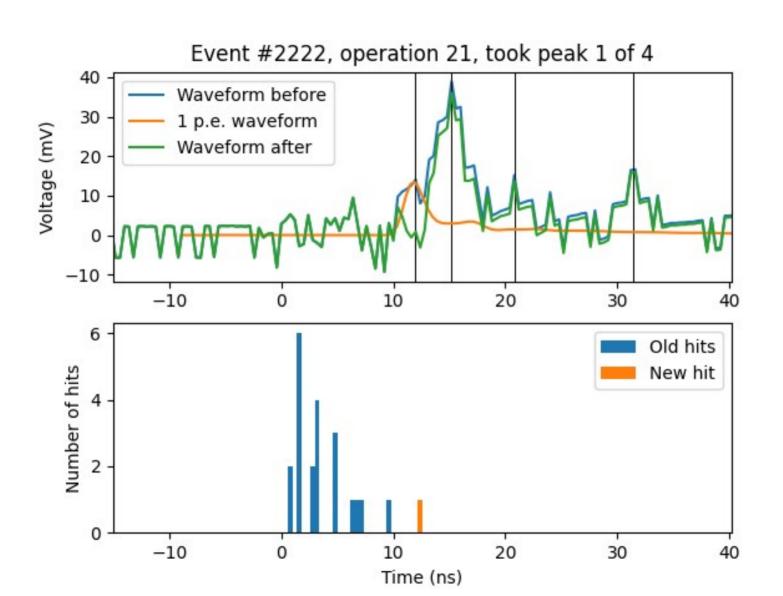
Event #2222, operation 16, took peak 1 of 9 Waveform before 40 1 p.e. waveform Voltage (mV) 30 Waveform after 20 10 -1010 20 30 40 6 Old hits Number of hits New hit 0 30 -10 20 10 40 Time (ns)

Event #2222, operation 17, took peak 1 of 9 Waveform before 40 1 p.e. waveform Voltage (mV) 30 Waveform after 20 10 -1010 20 30 40 6 Old hits Number of hits New hit 0 30 -10 20 10 40 Time (ns)

Event #2222, operation 18, took peak 1 of 8 40 Waveform before 1 p.e. waveform Voltage (mV) 30 Waveform after 20 10 -1030 10 20 40 6 Old hits Number of hits New hit 0 30 -10 20 10 40 Time (ns)

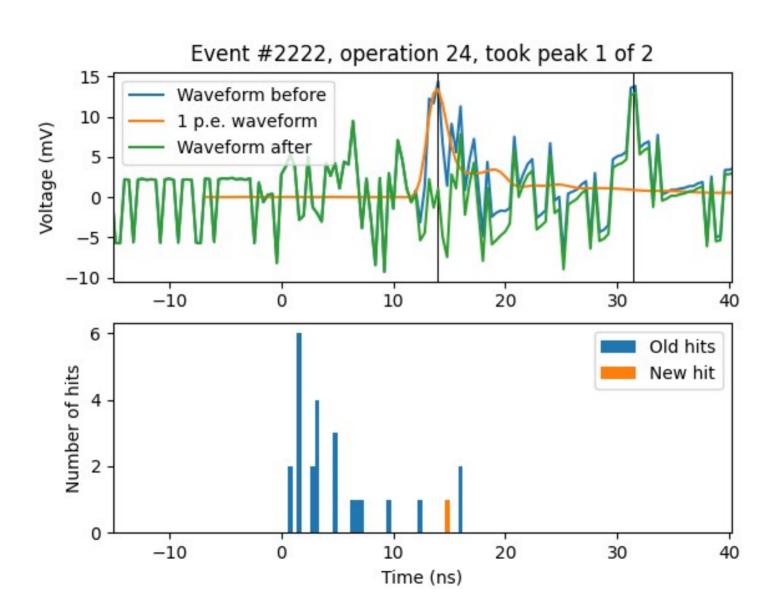






Event #2222, operation 22, took peak 1 of 3 Waveform before 30 1 p.e. waveform Voltage (mV) Waveform after 20 10 -10-1010 20 30 6 Old hits Number of hits New hit 0 30 -10 20 10 40 Time (ns)

Event #2222, operation 23, took peak 1 of 2 Waveform before 20 -1 p.e. waveform Voltage (mV) Waveform after 10 -10-1020 30 10 6 Old hits Number of hits New hit 0 30 -10 20 10 40 Time (ns)



Event #2222, operation 25, took peak 1 of 1 Waveform before 10 -1 p.e. waveform Voltage (mV) Waveform after 5 -10-1020 30 10 6 Old hits Number of hits New hit 0 30 -10 20 10 40

Time (ns)

